Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A decorrelating rake receiver comprising:

a plurality of filters arranged to be coupled to an input signal and to accept filter coefficients, the plurality of filters operable to provide a plurality of output signals;

a coefficient generator, arranged to be coupled to the input signal and the plurality of filters, to explicitly and definitely determine the filter coefficients for the plurality of filters such that the plurality of filters perform a decorrelating rake process; ~~and~~

a combiner, coupled to the plurality of filters, to combine the plurality of output signals and provide a received signal; and

an autocorrelation processor coupled to the input signal to provide autocorrelation parameters to the coefficient generator, the autocorrelation parameters corresponding to the input signal;

wherein the coefficient generator is further coupled to receiver identification information,

wherein the coefficient generator further comprises an inversion processor to provide a matrix inverse corresponding to the autocorrelation parameters, and

wherein the inversion processor uses a recursive architecture to provide the matrix inverse.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Currently amended) The decorrelating rake receiver of ~~claim 4~~ claim 1 wherein the coefficient generator combines the matrix inverse and the receiver identification information to provide the filter coefficients.

6. (Cancelled)

7. (Currently amended) The decorrelating rake receiver of ~~claim 6~~ claim 1 wherein the recursive architecture further comprises a prediction calculator coupled to the autocorrelation parameters and further coupled to a matrix formulator, the prediction calculator and matrix formulator operable to provide the matrix inverse.

8 (Original) The decorrelating rake receiver of claim 7 wherein the prediction calculator uses a Levinson Durbin algorithm to provide predictive information to the matrix formulator and the matrix formulator provides the matrix inverse after a predetermined number of iterations.

9. (Currently amended) The decorrelating rake receiver of ~~claim 4~~ claim 1 wherein the inversion processor uses a pipelined architecture to provide the matrix inverse.

10. (Original) The decorrelating rake receiver of claim 8 wherein the pipelined architecture further comprises a plurality of prediction calculators and a plurality of matrix formulators inter coupled and operable to provide the matrix inverse.

11. (Original) The decorrelating rake receiver of claim 10 wherein each of the prediction calculators uses a Levinson Durbin algorithm to provide predictive information to a corresponding one of the matrix formulators with a last one of the matrix formulators providing the matrix inverse.

12. (Original) The decorrelating rake receiver of claim 1 used in one of a wireless communication device and a wireless communication base transceiver.

13. (Currently amended) A method of determining filter coefficients for a decorrelating rake receiver, the method comprising:

providing autocorrelation parameters corresponding to an input signal and desired signal information; and

determining, precisely and directly, the filter coefficients for a plurality of filters such that the plurality of filters will operate to perform a decorrelating rake process, the filter coefficients being a function of the autocorrelation parameters and the desired signal information,

wherein the determining the filter coefficients further comprises providing a matrix inverse corresponding to the autocorrelation parameters, and

wherein the providing the matrix inverse further comprises using a recursive process to provide the matrix inverse.

14. (Cancelled)

15. (Currently amended) The method of ~~claim 14~~ claim 13 wherein the determining the filter coefficients further comprises combining the matrix inverse and the desired signal information to provide the filter coefficients.

16. (Cancelled)

17. (Currently amended) The method of ~~claim 16~~ claim 13 wherein the using the recursive process further comprises using a Levinson Durbin algorithm and the autocorrelation parameters to provide predictive information and iteratively formulating a sub matrix to provide the matrix inverse after a predetermined number of iterations.

18. (Original) The method of ~~claim 14~~ claim 13 wherein the providing the matrix inverse further comprises using a pipelined process to provide the matrix inverse.

19. (Original) The method of claim 18 wherein the using the pipelined process further comprises using a Levinson Durbin algorithm and the autocorrelation parameters to sequentially

provide predictive information and sequentially formulating a sub matrix to provide the matrix inverse after a predetermined number of formulations of the sub matrix.

20. (Original) The method of claim 13 used in one of a wireless communication device and a wireless communication base transceiver.

21. (Currently amended) A signal processor arranged and constructed to determine filter coefficients for a decorrelating rake receiver, the signal processor when executing software instructions being operable to:

provide autocorrelation parameters corresponding to an input signal; and

compute, explicitly with a predetermined number of computations, the filter coefficients for a plurality of filters such that the plurality of filters will operate to perform a decorrelating rake process, the filter coefficients being a function of the autocorrelation parameters and desired signal information;

wherein the signal processor is further operable to compute the filter coefficients by providing a matrix inverse corresponding to the autocorrelation parameters and combine the matrix inverse and the desired signal information to provide the filter coefficients, and

wherein the signal processor is further operable to provide the matrix inverse by using a recursive process to provide the matrix inverse, the recursive process comprising iteratively employing a Levinson Durbin algorithm and the autocorrelation parameters to provide predictive information and iteratively formulating a sub matrix using the predictive information to provide the matrix inverse after a predetermined number of iterations.

22. (Canceled)

23. (Canceled)

24. (Currently amended) The signal processor of ~~claim 22~~ claim 21 further operable to provide the matrix inverse using a pipelined process to provide the matrix inverse, the pipelined process comprising using a Levinson Durbin algorithm and the autocorrelation parameters to sequentially provide predictive information and sequentially formulating a sub matrix using the predictive information to provide the matrix inverse after a predetermined number of formulations of the sub matrix.

25. (Original) The signal processor of claim 21 used in one of a wireless communication device and a wireless communication base transceiver.

26. (Currently amended) A wireless communication device for receiving a spread spectrum signal, the wireless communication device comprising:

a receiver front end to receive a composite spread spectrum signal and provide a sampled spread spectrum signal corresponding to the composite spread spectrum signal;

a plurality of filters arranged to be coupled to the sampled spread spectrum signal, the plurality of filters having respective characteristics defined by filter coefficients and being operable to provide a plurality of output signals;

a coefficient generator, arranged to be coupled to autocorrelation parameters corresponding to the sampled spread spectrum signal and a spreading code information corresponding to the spread spectrum signal, to explicitly and definitely determine the filter coefficients such that the plurality of filters perform a decorrelating rake process;

a coherent combiner to combine the plurality of output signals and provide a composite sampled output signal having a reduced level of multiple access interference; and

a despreader to despread the composite sampled output signal to provide the spread spectrum signal,

wherein the coefficient generator further comprises an inversion processor to provide a matrix inverse corresponding to the autocorrelation parameters and to combine the matrix inverse and the spreading code information to provide the filter coefficients, and

wherein the inversion processor uses one of a recursive architecture and a pipelined architecture to provide the matrix inverse.

27. (Canceled)

28. (Canceled)

29. (Currently amended) The wireless communication device of ~~claim 28~~ claim 26 wherein the inversion processor further comprises a prediction calculator coupled to the autocorrelation parameters and further coupled to a matrix formulator, the prediction calculator and matrix formulator operable to provide the matrix inverse.

30. (Original) The wireless communication device of claim 29 wherein the prediction calculator uses a Levinson Durbin algorithm to provide predictive information to the matrix formulator and the matrix formulator provides the matrix inverse after a predetermined number of calculations.

31. (Original) The wireless communication device of claim 26 wherein the spread spectrum signal is a code division multiple access signal.

32. (Original) The wireless communication device of claim 26 wherein the coefficient generator to explicitly and definitely determine the filter coefficients follows a process that yields a definite and precise result for the filter coefficients after a predetermined number of operations that corresponds to the number of autocorrelation parameters.

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